

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

COMMWORKS SOLUTIONS, LLC,

Plaintiff,

v.

COMCAST CABLE COMMUNICATIONS,  
LLC AND COMCAST CABLE  
COMMUNICATIONS MANAGEMENT,  
LLC,

Defendants.

Civil Action No.: 6:21-cv-00366-ADA

**Jury Trial Demanded**

**PLAINTIFF COMMWORKS SOLUTIONS, LLC'S SUR-REPLY BRIEF**  
**ON CLAM CONSTRUCTION**

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## I. DISPUTED CLAIM TERMS<sup>1</sup>

### A. “Provisioning” / “Provisioned” Terms That Are Recited In Multiple Patents-In-Suit And Appear In Other Claim Terms Requiring Construction (’249 pat., claims 11, 15, 19, 31, 38, 48, 49; ’285 pat., claims 1, 22, 43; and ’664 pat., cl. 1, 2, 4, 7, 8, 9, 12)

The intrinsic evidence supports construing “provisioning” / “provisioned” consistently across the Patents-in-Suit, which will also be helpful to the jury. Comcast relies on *Monsanto* to suggest that applying three different constructions is the proper course of action. However, *Monsanto* states that “similar terms *can* have different meanings in different patents depending on the specifics of each patent”—not that they must. *Monsanto v. Bayer Bioscience B.V.*, 363 F.3d 1235, 1244 (Fed. Cir. 2004).<sup>2</sup> The *Monsanto* court found it “improper for the district court to apply the claim construction ... without examining the intrinsic evidence ...” *Id.*, at 1245. In the present case, the intrinsic evidence supports construing all provisioning terms consistently.

Turning to the ’249 patent, Comcast’s arguments contradict the intrinsic record. First, Comcast improperly limits “provisioning” as a verb because “*provisioning may occur without the addition of any new communication circuits or paths.*” ’249 pat., col. 14:62-63. Second, CommWorks’ construction succinctly captures “the configuration, operation, characteristics, properties, etc. of communication resources” as “connectivity.”

As to the ’285 patent, Comcast’s requirement of an “authorized” link in its proposed construction is unfounded. In the specification, *devices* are authorized or unauthorized, not communication links. *See* ’285 pat., col. 5:21-26 (“The network access point 12 provides time-based provisioning to ensure that only authorized wireless devices 14 can operate within the local network 17, ... and to prevent unauthorized wireless devices 14 . . . .”).

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<sup>1</sup> The Court granted leave for the parties to file 21-page reply and sur-reply claim construction briefs.

<sup>2</sup> All emphasis is added unless otherwise indicated.

For the '664 patent, Comcast's cited passage does not support its argument that "provisioning" must include "identifying" a path. As that passage explains, "[w]hen network traffic traverses a particular DCS, configuration and status *information related to that DCS is retrieved* from cross connection status database 324 to identify how *the path across the DCS should be provisioned* to route the traffic to the appropriate destination." '664 pat., col. 7:40-45. This passage explains that provisioning can be *based* on identifying a path, but provisioning is a separate step. This is consistent with other disclosures of the '664 patent. *Id.* at 2:22-29, 4:35-40.

Comcast also attempts to "highlight the fallacy of Plaintiff's one-size-fits-all approach" by deceptively misapplying CommWorks' construction to fabricate "linguistic problems." Def. Rep. Br. at 2 ("E.g. '664 Pat. claim 4 ('A routing manager for ['establishing connectivity'] paths for network traffic . . . .')."). Yet, CommWorks' proposal for "provisioning" as a verb is "establishing connectivity [for]/[with]"—which seamlessly fits the claim. *See* '664 pat., claim 4 ("A routing manager for ['establishing connectivity for/with'] paths for network traffic . . . .').

#### **B. Terms of U.S. Patent No. 6,832,249 ("249" patent)**

##### **1. "Open System Interconnection (OSI) reference model layers" ('249 pat., claims 11, 31, 38, 48)**

Comcast does not dispute that even if construed, this term will require expert testimony to explain to the jury. The construction that Comcasts proposes—more complex than "OSI reference model layers" itself—will not obviate that need. Comcast's construction also has a potential of confusing the jury into believing that any network using an OSI reference model requires seven layers. The example of a network shown in Fig. 1 uses only layers 1, 2, 3, and 7 making the implicit requirement of seven layers improper. For these reasons, no construction is required beyond the plain and ordinary meaning.

##### **2. "monitor[ing] at least one OSI reference model layer" ('249 pat., claims 11, 29, 30, 31, 38, 48)**

Comcast's inclusion of "communication resources associated with at least one OSI reference model layer" is based on its flawed assumption that a communication resource *is* associated with a layer. In its opposition brief, CommWorks noted that links 318 *are* communication resources, yet they are not associated with any particular OSI layer because they carry information of all layers simultaneously. On reply, to argue that links 318 are not associated with all layers, Comcast cited the sentence: "[T]he communication links 318 . . . may be categorized, in the resource database 312, according to their functional layers of the OSI reference model." '249 pat., col. 9:14-17. With respect to links, Comcast confuses "categorized" or "organized" as a logical representation in the database with "associated" in its proposed construction, where the communication link is *associated* with all the layers, but may be categorized differently. The specification provides examples where link 318 may appear as an IP path but may be organized under layer 3 and 1 or layers 3, 2, and 1. *Id.*, col. 12:20-41. Whether or not the link is organized under one or many layers, it is *associated* with all of them.

Comcast's rebuttal of CommWorks' claim differentiation argument is also without merit. Comcast argues that because claim 29 narrows claim 11 in two separate ways, it is somehow permissible to ignore one of those ways. This is incorrect. Claim 29 introduces "monitoring communication resources," which Comcast attempts to include in claim 11, and "a proactive monitoring process." Limiting claim 11 to either of these claim 29 limitations is improper.

**3. "quality of service event" ('249 pat., claims 11, 15, 17, 18, 19, 31, 32, 41, 48, 49)**

Comcast does not address any of the three separate reasons why its construction is improper presented in CommWorks' opposition brief. CommWorks rests on those arguments.

**4. "signaling that the network provisioning...has been changed" ('249 pat., claims 11, 31, 48, 49)**

Comcast has no rebuttal to CommWorks' argument that the claims do not require



“indicating that the change in network provisioning is complete.” The claim only requires that a change in provisioning is reported. And because Comcast introduces into the claims a limitation that is indisputably not required, its construction should be rejected.

Comcast does not have a meaningful rebuttal to the argument that the claims that recite the “signaling” step do not require a network monitor. But the network monitor is recited in other claims. And not reciting a network monitor in connection with the “signaling” step was patentee’s deliberate choice.

**5. “balancing data traffic throughout the network” (’249 pat., claims 32, 33)**

After CommWorks demonstrated that Comcast’s expert’s opinion that “balancing data traffic” is indefinite is highly suspect because he approved a paper using the exact words, Comcast now focuses on “throughout the network” as the primary reason for indefiniteness.

Comcast itself admits that the method is intended to operate on a vast variety of networks and yet requires CommWorks to explain how *exactly* the traffic is balanced throughout a network after a quality-of-service event. As explained in CommWorks’ opening brief, this level of precision is not what is required by the “reasonable certainty” standard. *Nevro Corp. v. Boston Sci. Corp.*, 955 F.3d 35, 40 (Fed. Cir. 2020) (“Definiteness does not require that a potential infringer be able to determine ex ante if a particular act infringes the claims.”) Comcast’s attempt to distinguish *Nevro* based on irrelevant details is without merit; *Nevro* stands for a broader proposition that is opposite to what Comcast advocates.

**6. “shortest possible path” (’249 pat., claim 33)**

Comcast argues that this term is indefinite because the claim does not specify the metric over which “shortest” is determined. This is akin to arguing that “dividing a first number by a second number” is indefinite because the numbers are not known in advance, and one cannot know the results of the division. To the extent a construction of this term is required, “a path

selected by a shortest-path algorithm” is the proper construction, with a POSITA understanding that a metric over which the path is optimized is provided to the algorithm as an input.

**7. “means for monitoring at least one OSI reference layer functioning in the multi-layered network” (’249 pat., claim 49)**

For all means-plus-function terms in this case the determination of the corresponding structure is a two-step inquiry. First, it is necessary to determine whether the computer/processor performing the function is a *special-purpose* computer/processor, *i.e.*, as opposed to a general purpose computer/processor. If the structure is special-purpose, it is the end of the inquiry, and that special-purpose computer/processor *is* the corresponding structure. If the specification discloses a general-purpose computer/processor as the underlying structure, then disclosure of an algorithm for performing the function is required and is part of the structure. Some Federal Circuit cases express the latter scenario as algorithms that create a special-purpose computer from the general-purpose computer. Yet Comcast conflates special-purpose computers (*i.e.* non-general purpose), which require no algorithm, with special-purpose computers that are the result of algorithms running on general-purpose computers, and incorrectly requires the disclosure of the algorithm for an innately special-purpose computer.

To the extent the Court finds that the network monitor is a general-purpose computer, numeral 308 should not be part of the construction. And Comcast now agrees that the proper construction of the algorithms would be proactive monitoring, reactive monitoring, or both.

**8. “means for determining that a quality of service event has occurred in the multi-layered network” (’249 pat., claim 49)**

The specification ties the performance of this function to the network monitor. To the extent the Court finds the network monitor to be a general-purpose computer, Comcast has no rebuttal to CommWorks’ argument that the specification discloses a specific algorithm—comparing quality of service metrics to thresholds—for performing the function, which is

sufficient to overcome indefiniteness.

**9. “means for determining that the quality of service event occurred at a layer N in the OSI Reference Model” (’249 pat., claim 49)**

The specification discloses that “the resource database 312 maintains the relationship between the various layers in the OSI model for the communication resources.” ’249 pat., col. 12:18-20. The specification further discloses that “[t]he network monitor 308 may then locate the router in the resource database 312 and determine that the quality of service event is occurring at the network layer of the OSI reference model (layer 3). Therefore, layer 3 would become layer N.” *Id.*, col. 11:63-67. Comcast with its expert says that no algorithm is disclosed for “locating.” Even without express disclosure, a POSITA would understand that the network monitor would accomplish this determination by a database lookup. And a database lookup, being a basic computer function, does not require disclosure of an algorithm. *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303 (Fed. Cir. 2011) (a standard microprocessor can serve as sufficient structure for “functions [that] can be achieved by any general purpose computer without special programming.”).

**10. “means for responding to the quality of service event in the multilayered network by changing network provisioning at a layer less than N” (’249 pat., claim 49)**

CommWorks has demonstrated that the network controller is a special-purpose computer and no disclosure of algorithms is required. To the extent the disclosure of algorithms is required, CommWorks has established in its opposition brief, that “responding . . .” may be accomplished in ways other than the ones Comcast included in the structure. ’249 pat., col. 14:25-28 (“rather than or in addition to provisioning additional circuits between the first and second routers 508, 520, the network controller 304 may respond to the quality of service event using multiprotocol label switching (MPLS)”); *Id.*, col. 14:63-66 (“For example, the network

controller may respond to a quality of service event by changing the path of an MPLS tunnel or by changing the priority on a queue in an IP router.”) The ’249 Patent goes on to state: “[a]ccordingly, for the purpose of the present invention, any change in the configuration, operation, characteristics, properties, etc. of communication resources in a network may be described as a change in network provisioning.” *Id.*, col. 14:66-15:3. In view of this disclosure, Comcast’s structure limited to two algorithms is deficient.

**11. “means for signaling that the network provisioning at the layer less than N has been changed” (’249 pat., claim 49)**

Comcast is incorrect on three accounts. First, the structure that performs the “signaling . . .” function (*i.e.*, the network controller) is a special-purpose computer, and therefore the disclosure of an algorithm is not required. Second, even if the network controller were a general-purpose computer “signaling” is a basic computer function that requires no algorithm to be disclosed. *In re Katz*, 639 F.3d 1303 (Fed. Cir. 2011). Third, even if the network controller were a general-purpose computer and an algorithm were required, the specification discloses that “signaling” is accomplished by “sending a signal,” as opposed to, for example, changing a value of a memory location or waiting to be polled. *Id.*, col. 15:63-67.

**C. Terms of U.S. Patent No. 7,027,465 (“’465” patent)**

**1. “identifying a received frame as a priority frame in case said extracted bit pattern matches with said search pattern” (’465 pat., claims 1, 6, 7)**

Despite CommWorks’ position that this term requires no construction, Comcast argues that “Plaintiff’s examples . . . improperly seek to import limitations from unasserted dependent claims into the claims at issue.” Def. Rep. Br. at 8. Not so. It is Comcast that improperly limits this term to identification of frames “based solely on said bit pattern and search pattern being identical.” In essence, Comcast attempts to re-write the disputed term as follows, by replacing “in case” with the following underlined language:

identifying a received frame as a priority frame ~~in case~~ if and only if said extracted bit pattern identically matches with said search pattern

Comcast’s construction not only contradicts the claim language, which did not require an exclusively identical match, but also contradicts the specification which explains that the identification does not have to be based on an identical pattern match. *See* Pl. Op. Br. at 21. Further, Comcast’s argument that “the ‘masking’ embodiment [recited in claim 3] is an alternative to claims 1, 6, and 7—not a narrower subset of them” contradicts the claim language. First, Claim 3 recites “[t]he method according to claim 1, further comprising the step of masking said bit pattern . . .”—an additional limitation that narrows claim 1. Second, the masking embodiment shows that the access point *does not* need an identical match with the extracted bit pattern since not all of the extracted bit pattern is used for the comparison. For these reasons, Comcast’s construction is improper and the term requires no construction.

## 2. “priority frame” (’465 pat., claims 1, 6, 7)

The flaw in Comcast’s construction is that it requires an action—being “given higher priority in traffic handling”—that contradicts the specification. First, as noted in CommWorks’ opening brief, “priority frames” *do not* need to be “given higher priority in traffic handling”:

As mentioned above, the PC 21 forwards the received priority frames either to the normal queue 215 or to the priority queue 216 depending on the current state of the network.

’465 pat., col. 8:64-67. If a “priority frame” can be forwarded to a “normal queue” then it cannot be fairly said that all priority frames are “given higher priority in traffic handling” as Comcast proposes. Second, Comcast’s brief admits that priority frames are not always “given higher priority in traffic handling.” For example, Comcast argues that “priority frames are counted when the high priority queue is unavailable” (Def. Rep. Br. at 9), but counting frames is not the same as “being given higher priority in traffic handling” in Comcast’s construction. Third, even

the quote relied on by Comcast does not mandate higher priority handling of frames. The patent simply explains that “priority frames” are “frames with priority”—which is what the claim language already states. *See* ’465 pat., col. 12:12-15. In other words, “priority frames” are frames *capable* of being given a higher priority, but that action is not required.

### 3. “offset” (’465 pat., claims 1, 6, 7)

The word “offset” is well understood and requires no construction. Comcast admits that the patent discloses several “offsets,” including an offset from the beginning of an “IP packet (as an example for a data frame)” (’465 pat., col. 11:32) and an offset from the beginning “of the ethernet (version 2) frame” (*id.*, col. 11:33-34) but argues that these offsets pertain to only one of the disclosed embodiments. *See* Def. Rep. Br. at 10. First, the term “offset” appears in all asserted claims and courts “apply a ‘presumption that the same terms appearing in different portions of the claims should be given the same meaning unless it is clear from the specification and prosecution history that the terms have different meanings at different portions of the claims.’” *Paragon Sols., LLC v. Timex Corp.*, 566 F.3d 1075, 1087 (Fed. Cir. 2009). Thus, absent a clear indication that the term “offset” has different meanings in different embodiments—which Comcast has not supplied—the term must not exclude the disclosed embodiments. Second, the claims recite an offset in a frame, not necessarily an offset from the beginning of the frame. For example, claim 1 requires “the offset of said bit pattern in said frame”—not “the offset of said bit pattern ~~in~~ from the beginning of said frame” as Comcast argues. For these reasons, Comcast’s construction is incorrect.

### 4. “high priority queue” (’465 pat., claim 7)

This term requires no construction. “The patentee is free to choose a broad term and expect to obtain the full scope of its plain and ordinary meaning unless the patentee explicitly redefines the term or disavows its full scope.” *Thorner v. Sony Comput. Entm’t Am. LLC*, 669

F.3d 1362, 1367 (Fed. Cir. 2012). “To act as its own lexicographer, a patentee must ‘clearly set forth a definition of the disputed claim term’ other than its plain and ordinary meaning. It is not enough for a patentee to simply disclose a single embodiment or use a word in the same manner in all embodiments, the patentee must ‘clearly express an intent’ to redefine the term.” *Id.*, 669 F.3d at 1365 (internal citations omitted). “We do not read limitations from the specification into claims; we do not redefine words. Only the patentee can do that. To constitute disclaimer, there must be a clear and unmistakable disclaimer.” *Id.*, 669 F.3d at 1366-67.

Comcast’s attempt to narrow this term explains why claim construction presumes plain and ordinary meaning absent clear express to redefine or disclaim the term. Specifically, Comcast introduces two concepts not required by the claim: the ability to “reserve” the queue, and the ability to make the queue “exclusive” to a certain type of frame. Neither of these requirements appears in the specification or in the claims. Notwithstanding a lack of a definition or disclaimer, Comcast argues that:

Plaintiff provides no evidence that, if a high priority queue is available, any normal priority traffic is funneled to that queue. Absent such evidence, as explained in Comcast’s opening brief, a ‘high priority queue’ must be reserved exclusively for high priority frames.

Def. Rep. Br. at 10. But Comcast has it backwards. It is Comcast that must put forth clear evidence of lexicography or disclaimer in order to prevail on a construction other than plain and ordinary meaning. And since Comcast has provided no such evidence, this claim requires no construction.

**D. Terms of U.S. Patent No. 7,177,285 (“’285” patent)**

**1. “tracking an operating parameter of [the/a] wireless device [within a service area]” (’285 pat., claims 1, 22, 43)**

This term requires no construction as it is easily understandable by a jury. Contrary to Comcast’s construction, the ’285 patent does not require the noting of time for tracking *every* operating parameter. As discussed in CommWorks’ opening brief, the ’285 patent includes an

embodiment where “the network access point 12 tracks the repeated powering operation, and can deny provisioning access as desired.” ’285 pat., col. 8:23-25. Comcast also argues that “Plaintiff failed to inform the Court that this embodiment (found at 8:21-25) is disclosed under the heading ‘Alternate Applications for the *Time-Based* Access Provisioning System.’” Def. Rep. Br. at 11 (emphasis in brief). But “time” is already a part of the claims—just not of this disputed term. For example, claim 1 recites “initiating provisioning . . . if the tracked operating parameter occurs within a time interval.” First, that is a different claim term than the one being disputed. Second, the claim simply requires determining whether the tracked parameter occurs “within” a time interval—not “noting the time” of the operating parameter as Comcast suggests. For example, the system may have a flag indicating that a time interval is “open” and when an operating parameter is received, the system confirms that the flag is still raised. In this approach, the system does not need to “note the time” of the operating parameter to determine whether it occurred during the time interval. Finally, Comcast incorrectly argues that “every embodiment described in the specification[] discloses noting the time by which a tracked operating parameter occurs.” *Id.* As noted above, repeated parameter tracking does not impose this requirement.

**2. “[logic for] initiating [provisioning/an association] of the wireless device [with a network] if the tracked operating parameter occurs within a time interval” (’285 pat., claims 1, 22, 43)**

a. “initiating provisioning” in claim 1 is not a step-plus-function claim element

Claim 1 recites “[a] process for provisioning between a wireless device and a network, comprising the steps of: . . . initiating provisioning of the wireless device if the tracked operating parameter occurs within a time interval.” This is not a step-plus-function claim element and Comcast’s reliance on Judge Rader’s concurrence opinion in *Seal-Flex, Inc. v. Athletic Track and Court Const.*, 172. F.3d 836 (Fed. Cir. 1999) is misplaced. First, the Federal Circuit did not adopt “Judge Rader’s formulation,” holding in a subsequent case that:



Where the claim drafter has not signaled his intent to invoke § 112, paragraph 6 by using the “steps for” language, we are unwilling to resort to that provision to constrain the scope of coverage of a claim limitation without a showing that the limitation contains nothing that can be construed as an act.

*Masco Corp. v. United States*, 303 F.3d 1316, 1327 (Fed. Cir. 2002). Thus, so long as a claim recites something “that can be construed as an act,” § 112 does not apply. Claim 1 plainly recites “initiating provisioning” and “initiating” is an action. Second, Comcast again misreads the claim by arguing that the claim “does not add any information on *how* the provisioning is implemented.” Def. Rep. Br. at 12 (emphasis by Comcast). But the disputed term is “initiating provisioning of the wireless device if the tracked operating parameter occurs within a time interval”—the claim does not require the entire process of “provisioning” as Comcast urges. Moreover, the claim already explains that the initiation of provisioning is constrained by a time interval during which an operating parameter must occur. This claim term is easily understandable, is not a “step-plus-function element,” and requires no construction.

As to claims 22 and 43, CommWorks agrees that those claims recite means plus function limitations. Comcast does not add any arguments relating to claims 22 and 43 in its reply brief, and CommWorks’ position as to those claims appears at Section II.D.2 of its opening brief.

b. The ’285 patent discloses sufficient structure for the claims at issue

All asserted claims of the ’285 patent that are governed by § 112 ¶ 6 disclose sufficient structure. As an initial matter, Comcast’s argument that “functions that are implemented using software require the disclosure of an algorithm to satisfy § 112 ¶ 6” is an incorrect statement of the law. The algorithm requirement applies only to structure that is a “general-purpose computer or processor.” *See* Pl. Op. Br. at 31. In the ’285 patent, the corresponding structure is an access point specifically designed for wireless network provisioning and therefore disclosure of an algorithm is not required. Moreover, as a rule of thumb, “access points” do not perform “general

purpose computing”—businesses and individuals do not install applications on access points, and they do not perform word processing, computing, or video processing on the access point itself. Simply because access points facilitate the flow of traffic *that could be used* for general purpose computing does not turn access points into general computing devices.

But even if an algorithm were required, the '285 patent discloses not one but several algorithms. Case law permits “a patentee to express an algorithm ‘in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure.’” *TecSec, Inc. v. IBM*, 731 F.3d 1336, 1348 (Fed. Cir. 2013) (quoting *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008)). The '285 patent includes “prose,” “flow chart[s],” and timing diagrams to disclose corresponding algorithms. Pl. Op. Br. at 25-29. Further, Comcast’s challenges to the descriptive algorithms are misguided. Comcast argues that not all of the structural components identified by CommWorks “perform the entire function” but that is not so. The “time-based provisioning logic” is required to “initiate provisioning” based on a time interval; the “access control list” will not permit provisioning to be initiated; the “activation button” triggers the provisioning step; and the “wired network logic” is required “for provisioning between a wireless device and a network” (claim 22) and “initiating an association of the wireless device with a network” (claim 43). Thus, all of the components identified by CommWorks correspond to the claimed function.

### **3. “time interval” ('285 pat., claims 1, 4, 13, 14, 22, 25, 34, 35, 43, 46, 54, 55)**

This term requires no construction. Comcast concedes that the '285 patent discloses three types of time intervals, but argues that “only the acceptance time interval (74) matches the claim language.” Def. Rep. Br. at 14. Yet, “it is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so

limited.” *Epos Tech. Ltd. v. Pegasus Tech. Ltd.*, 766 F.3d 1338, 1341 (Fed. Cir. 2014). And here, the “acceptance time interval” is not even the only embodiment of a “time interval” disclosed in the specification. The patentee knew how to describe an “acceptance time interval” as well as other time intervals, but claimed the broader “time interval.” Moreover, “breadth is not indefiniteness.” *BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1367 (Fed. Cir. 2017) (quoting *SmithKline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1341 (Fed. Cir. 2005)).

**4. “means for tracking an operating parameter of [the/a] wireless device” (‘285 pat., claims 22, 43)**

The parties agree on the function and most of the structure, but disagree whether an algorithm must be expressly included in the construction. As discussed above in Sections I.B.7 and I.D.2.b, the claimed structure is not a “general purpose computer or processor” and therefore a recitation of an algorithm is not required. Comcast argues that “Plaintiff does not disclose what steps constitute the ‘provisioning logic’ or ‘wired network logic.’” But the “logic” elements do not have to be constituted of “steps”—rather, certain embodiments of the patent disclose actions carried out by the logic. *See, e.g.*, col. 6:20-1 “provisioning logic 44 denies 68 the second wireless device 14, and prevents provisioning 64”). Moreover, the same structure may serve several functions. The provisioning logic and wired network logic are required for the claims that initiate provisioning of a wireless device to a network, including a wired network. As the Federal Circuit noted, “we see no reason why, as a matter of law, one claim limitation may not be responsive to another merely because they are located in the same physical structure.” *Princeton Dig. Image Corp., v. Konami Dig. Entm’t Inc.*, 2017 U.S. Dist. LEXIS 204812, \*16 (D. Del. 2017) (quoting *Intellectual Prop. Dev., Inc. v. UA-Columbia Cablevision of Westchester, Inc.*, 336 F.3d 1308, 1320 n.9 (Fed. Cir. 2003)). Indeed, it is “unremarkable . . . that a particular means may perform more than one function.” *Id.* (quoting *Rodime PLC v. Seagate*

*Tech., Inc.*, 174 F.3d 1294, 1305 (Fed. Cir. 1999)).

**E. Terms of U.S. Patent No. 7,760,664 (“’664” patent)**

**1. “digital cross connect [system]” (’664 pat., claims 1, 3, 4, 6, 7, 9, 13)**

Advocating its position based on the ’664 Patent file history, Comcast speculates that the introduction of “digital cross connect” into the claims was what resulted in allowance. This simply is not true—the introduction of “a cross connection status database,” is what advanced the claim to allowance. Comcast argues that because the “database” limitation recites “said digital cross connect,” the “digital cross connect” limitation was needed to overcome prior art. But this is speculation because, with multiple amendments, the examiner might have allowed the claims with the added “database” limitation reciting the original “common network device.”

Next, arguing that “digital cross connect” was required to overcome prior art reference Lu, Comcast fails to point to the exact element in Lu that the examiner matched to the original “common network element.” This is because the Office Actions were confusing and appeared to match “common network element” to a sub-network in Lu. Def. Op. Br., Ex. 14, Office Action dated 1/28/2009 (“wherein each sub-network represents as a single unit in the model, e.g., ‘common network device’”). To address this confusion and to make sure that “common network element” is a device and not a link or network—and not necessarily change the scope of the claims—patentee replaced “common network element” with “digital cross connect [system].”

Turning to Comcast’s construction, it is improper because it combines definitional language from the specification “DCS is any device that interconnects networks” with non-definitional “to facilitate traffic routing from one network to another or to link portions of networks using one protocol or traffic rate to another portion using a different protocol or rate.”

Lastly, the problem with Comcast’s construction is that the same device may or may not be a “digital cross connect” depending on what rate the networks that it interconnects transmit

information. In a configuration where a device connects two Ethernet networks one transmitting at 100 Mbps and another at 1 Gbps, the device *would* be a digital cross connect, but if the faster network would also transmit information at 100 Mbps, then this same device would stop being a digital cross connect according to Comcast. Similarly, connecting additional networks (if they use the same protocol and rate as previously connected ones) would take that same device outside the claim scope. Such a construction would be unworkable and should be rejected.

**2. “means for creating a graph of routing nodes and links” (’664 pat., claim 4)**

Comcast does not rebut that the structure identified by CommWorks, *i.e.*, “the network configuration management system comprising a routing manager and inventory database” is not a general-purpose computer, but is rather a specialized system, ending the inquiry under *Nevro*.

To the extent an algorithm is required, however, Comcast argues that CommWorks has not pointed to the disclosure of *creating* a graph, only updating. First, the disclosure of updating the graph is sufficient, because creating is updating from a null graph. But more importantly, the specification expressly discloses that the graph is created by inventorying the physical network elements and links in the network. ’664 pat., col. 3:22-27 (“In one embodiment, a network routing graph is created by an inventory subsystem in a routing manager by inventorying the physical network elements and links in the network. The inventory subsystem then models those elements/links as a plurality of virtual nodes and links between the nodes.”). Moreover, as discussed in CommWorks Op. Br. at 35-36, the ’187 application (incorporated by reference into the ’664 patent) discloses the details of “creation of the routing topology/graph withing these tables.” Pl. Op. Br., Ex. 11, ’187 pat. app., ¶ 35. A POSITA would understand the algorithms of the graph creating (to the extent required for construction) with reasonable certainty.

**3. “means for modeling said at least a first digital cross connect system as a link between those routing nodes representing said first network element and said second network element” (’664 pat., claim 4)**

First, the network configuration management system is not a general-purpose computer and therefore the disclosure of an algorithm is not required. To the extent an algorithm is required, the specification provides sufficient details for a POSITA to understand with reasonable certainty that when modeling a graph, “DCSs will be updated as links in the routing link table.” ’664 pat., col. 7:35-36. This concept is key to the ’664 Patent invention. *See id.*, col. 6:58-63 (“More particularly, in part since DCSs and other similar devices are relatively static in configuration, the present inventor have discovered that such devices may be treated as links, such as would be formed by a physical cable, instead of nodes that require processing as an affirmative routing hop.”). And Figs. 4 and 5 provide a visual representation of this algorithm with Fig. 5 showing the network of Fig. 4 with DCSs modeled as links. In view of all this disclosure, Dr. Jeffay’s indefiniteness opinion is simply not credible.

**4. “means for storing a status of each of said interconnections” (’664 pat., claim 4)**

The parties agree that the status database is part of the structure for the “means for storing.” While the status database serves as a repository of status information, the function of storing (that includes supplying the information to the database) involves structures of the network configuration management other than the database. To the extent the Court agrees with Comcast that only the “cross connection status database” is the corresponding structure, Comcast’s construction suffers from three deficiencies. First, numeral 324 should not be a part of the construction. Second, “storing configuration and status information for the digital cross connect system” should not be part of the structure because this clause modifies the function, rather than setting forth a structure. Third, “equivalents thereof,” is required by pre-AIA § 112 ¶ 6. So, to the extent the Court is inclined to adopt Comcast’s proposal, the proper structure should be “cross connection status database and equivalents thereof.”

**5. “whether a cross-connection using said digital cross connect [system] was**

**successfully provisioned” (’664 pat., claim 49)**

Comcast’s proposed construction is not supported by the intrinsic record. *See* ’664 pat., col. 7:36-45. The passage cited by Comcast states that “provisioning” is an operation that must be carried out before traffic can be routed over the digital cross connection. *Id.*, col. 7:43-45 (“... the path across the DCS should be provisioned to route the traffic to the appropriate destination.”). This implies that a path can be provisioned, with no traffic having been routed over the path. The claim recites provisioning of the path, *not* successful routing. Comcast’s argument about tenses misses the point. The sentence quoted by Comcast says: “provisioned to route traffic,” meaning that provisioning and routing are two separate operations.

**F. Terms of U.S. Patent No. 8,923,846 (“’846” patent)**

**1. “transport address” (’846 pat., claims 1, 4, 5, 6, 7, 8)**

CommWorks’ construction is taken verbatim from the specification and is further confirmed by the file history. Def. Op. Br. at 40 (“During prosecution of the original parent application to which the ’846 Patent claims priority, the applicants stated: ‘The TA [transport address] is defined as the Care of Address which is an IP address associated with a mobile node while the subscriber is visiting a foreign link.’”); *see also* ’846 pat., col. 1:22-24, 3:32-34.

Comcast “agree[s] that the ‘transport address’ is the ‘care-of address,’ which is an ‘IP address associated with a mobile node while the subscriber is visiting a particular foreign link.’” Def. Rep. Br. at 19. However, Comcast includes “not the static home address” in its proposed construction even though one option to implement the “transport address” is to include a permanent address associated with the care-of-address to make up the “transport address.” ’846 pat., col. 4:29-33 (“Still another option is to have a permanent IPv6 (Internet Protocol Version 6) address allocated to the subscriber and to have the subscriber update its current Care-of-Address (part of the TA) to the Home Agent upon obtaining the current TA.”). Moreover, CommWorks

does not attempt to read “transport” out of the term as suggested by Comcast because the specification presents the possibility that a “transport address” may be a care-of address associated with a permanent address when the subscriber is roaming. *Id.*

## 2. “home subscription server (HSS)” (’846 pat., claim 2)

CommWorks submits that this term should be given its plain and ordinary meaning.

If the Court chooses to construe this term, the only dispute is whether the HSS must support IP Multimedia Subsystem (IMS) entities as CommWorks proposes, or whether support for IP Multimedia is not required as Comcast suggests. CommWorks submits that not only is there sufficient IP Multimedia disclosure in the specification, but the ’846 requires IP Multimedia support of the various network elements.

As an initial matter, the ’846 patent incorporates by reference a 3GPP technical report that “discloses the specifications of a 3G All-IP mobile network and this report is incorporated by reference herein in its entirety.” ’846 pat., col. 1:33-35. Comcast incorrectly suggests that the technical report does not include the “IP Multimedia Subsystem (IMS).” The technical report expressly discloses an “IM CN subsystem,” where “IM” stands for “IP Multimedia” and “CN” stands for “core network”:

**PS CN domain:** comprises all **core network** elements for provision of PS connectivity services.  
**IM CN subsystem:** (IP Multimedia CN subsystem) comprises all CN elements for provision of IM services

Pl. Op. Br., Ex. 12, 3G TR 23.821 V1.0.1 (2000-07), p. 8. The technical report’s addition of “CN [core network]” in its IMS definition does not render the entity different than an “IP Multimedia Subsystem.” *See id.*, p. 23 (multiple references to “IP Subsystem”). The technical report goes on to define the HSS’s responsibilities and functions and *requires* an HSS to support the IMS. *See id.*, p. 14 (“the HSS is also responsible of supporting ... IP Multimedia control...”); *see also id.*, p. 15 (“The HSS consists of the following functionalities: ... User



control functions required by the IM CN subsystem.”). CommWorks incorporates this primary function of the HSS into its proposed construction to accurately capture the disclosures of the intrinsic record. Comcast, however, discards the IP Multimedia features of the HSS in order to stretch the claim to cover older, non-IP based standards—and its construction should be rejected.

### **3. “serving-call state control function (S-CSCF)” (’846 pat., claim 3)**

Comcast again incorrectly states that the IP Multimedia Subsystem (IMS) “appears nowhere in the patent or incorporated industry standard.” Def. Rep. Br. at 20. *See* Section I.F.2 above discussing the IMS disclosure in the technical report incorporated by reference in the ’846 patent. If this term is construed, the S-CSCF in an “All-IP” network is the “primary node in the IP Multimedia Subsystem (IMS) responsible for session control.” This construction is consistent with the extrinsic evidence presented in CommWorks opening brief as well as the intrinsic evidence. *See* Pl. Op. Br. at 43-44; *see also id.*, Ex. 12, 3G TR 23.821 V1.0.1 (2000-07), p. 34 (“IP Multimedia CN subsystem elements (UE to CSCF ...)” and pp. 47-49 (showing the IMS registration by sending Register signals to the Serving-CSCF or Interrogating-CSCF). Notably, Comcast does not refute or offer expert opinions refuting that the S-CSCF is an IMS entity.

## **G. Terms of U.S. Patent No. RE42,883 (“’883 patent”)**

### **1. “telephone network” (’883 pat., claims 1, 6)**

Comcast attempts to rewrite the specification to say the telephone network is “the Public Telephone Network or a private enterprise network of telephones.” However, that is not what the inventor authored. The inventor states:

Telephone Network—This network may be circuit switch based (e.g. AIN PSTN network) or packet based (e.g. IP network with SIP or H.248 based phones). The network may be the Public Telephone Network or a private enterprise network.

’883 pat., col. 6:5-9. Comcast’s reliance on *Phillips* for the proposition that “the inventor’s

lexicography governs” is misplaced. Limitations from the specification should not be read into the claims unless (1) the patentee clearly set forth a definition of the disputed claim term other than its plain and ordinary meaning or (2) included in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope. *Thorner* at 1366 (Fed. Cir. 2012). Neither scenario applies here, and the claim should be given its plain and ordinary meaning.

**2. “add[ing] the collaboration session to the [existing/chosen] telephone call” (’883 pat., claims 1, 6, 8)**

Comcast attempts to improperly limit this claim term to a “separate collaboration session”—so that there are two separate parallel sessions between the same parties—with no intrinsic support for such a limitation. *See* ’883 pat., claims 1, 6, 8 (“add[ing] the collaboration session”—not starting a “separate” session). Comcast’s own citations to the specification highlight the lack of intrinsic support that the collaboration session must be *separate*. Def. Rep. Br. at 21, citing ’883 pat., 3:6-10 (“... add other IRTC applications for collaboration ...”), 3:60-64 (“... a subscriber needs only to establish a phone call and the enhancement can be achieved by using a choice driven web page.”), 4:32-35 (“... add other IRTC applications for collaboration ...”), 5:55-67 (guests may be invited to a collaboration session). Nowhere in Comcast’s citations is the word “separate,” or a synonym of “separate” present.

Dated: December 3, 2021

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document and all accompanying documents via the Court's CM/ECF system on December 3, 2021.

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/s/ Dmitry Kheyfits

Dmitry Kheyfits